(1) (a) Most of the mass and all of the positive charge - reside in the nucleus.

(b) The light and regatively charged electrons occupy—
the space outside the nucleus:

(c) Most of the atom is empty space

Symbol	35Cl1-	40 Ca+	84 Kr	15 18 15 15	
Protons	17	20	36		
Neutrons	18	20	48		
Electrons	18	18	36		
Atomic Number	17	20	36		
Mass Number	35	40	84	33	
Charge	- 1	+2	C	0	

$$E = \frac{hc}{\lambda} \Rightarrow \lambda = \frac{hc}{E} = \frac{(6.626 \times 10^{34} \text{ J·s})(3.00 \times 10^{8} \text{ m/s})}{5.78 \times 10^{-18} \text{ J}}$$

$$\lambda = 3.44 \times 10^{7} \text{m} \left(\frac{1 \text{nm}}{15 \text{m}} \right) = \frac{344 \text{nm}}{1}$$

Ultranolet Radiation

$$G = -2.18 \times 10^{-18} J \left(\frac{1}{3^2}\right) = -2.42 \times 10^{19} J$$

$$E_5 = -2.18 \times 10^{-18} \text{J} \left(\frac{1}{5^2} \right) = -8.72 \times 10^{-20} \text{J}$$

$$\Delta E = E_{\text{final}} - E_{\text{initial}} = E_{\text{photon}}$$

= $(-2.42 \times 10^{19} \text{J}) - (-8.72 \times 10^{-20} \text{J}) = 7^{1-55} \times 10^{19} \text{J}$

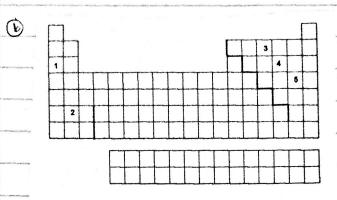
() means energy is light.

$$\frac{E = hc}{\lambda} \rightarrow \lambda = hc$$

$$E \leftarrow = \Delta E$$

$$1-28\times10^{6} \text{m} \left(\frac{1 \text{ nm}}{10^{9} \text{m}}\right) = 1,280 \text{ nm}$$

Infrared Radiation



and the second second second second second	coper Works and Virolina LADES POSSE
	+1
2.	+2
3 .	-3
4.	- 2
5.	-1

0

Ion	Co ²⁺	Co^{2+} Al^{3+}		NH ₄ ⁺	
S ²⁻	CoS	A1253	Lias	(NH4)25	
C10 ₃	Co(C103)2	A1(C103)3	LiC102	Nthy CICa	
PO ₄ ³⁻	Co2(PO4)2	AIPC4	Lia PD.	(NHy)2 PO4	
Br ⁻	CoBra	Al Bra	LiBr	NH4Br	

8	(4)	barium hys	lroxide		(e)	magnesilur	n ac	etate	ang ga a mang ga kakara kara di Bal abera na Militi Jacob Milita ka Milita pagari ka katil
-		dinitrogen		inguista maning pagawan ang i kanaga pagawan kanan ing pagawan kanan ing pagawan kanan ing pagawan kanan ing p	(f)	nitrous o	icid	(hyd	ngentrite)
	(c)	iron (II) n	itrate	anne particular de la constitución		carbon te			,
	(d)	potassium	fluoride						
	and a street of the street of	mily die weigen der		## of the state of	Projection of all 100 constants in the Security of				the Committee of the Co
9.	(a)	NaHCO3	elligi ka selitakkila ka ka pangan milili ka selah pangan pangan pangan pangan pangan pangan pangan pangan pan		(d)	PI_3		Baragaria anteriori (Spromata Andrew (1864) sant premingina e	
	(b)	A9NO3	ng din salah s			HCI		те со се объементо на почения в почения	Mit Programme (Contract Contract Contra
		Cr ₂ S ₃		n state of the sta	(f)	HC10.4		The Part of the Control of the Contr	